RIAP BULLETIN

Volume 7, Number 2–3 **April—September 2001**

Research Institute on Anomalous Phenomena (RIAP) is an independent scientific research body, established in 1992 by the Kharkov-based aerospace company *Vertical* and aimed at scientific studies in the fields of non-traditional energy sources, the problem of anomalous atmospheric phenomena and the SETI (Search for Extraterrestrial Intelligence) question.

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Published Quarterly by Research Institute on Anomalous Phenomena (RIAP)
P.O.Box 4684, 61022 Kharkov-22, UKRAINE
Printed and Distributed by Frontier Sciences Foundation
P.O.Box 372, 8250 AJ Dronten, THE NETHERLANDS
Website: http://www.fsf.nl

THE PETROZAVODSK TRIGGER

Lev M. Gindilis

Fate willed it that the present author participated in studying the Petrozavodsk phenomenon. More than twenty years have elapsed since then. Many details have evaporated from my memory. Even some names have been forgotten and therefore I had to restore them from my old notebooks. Unfortunately, at that time I did not keep detailed records. On the other hand, from a distance one can see broader vistas. With the passage of time, impressions of minor importance disappear, but the more important ones survive. When someone returns to his memories, he finds himself before an essential question—where should he start? Since from the very beginning the Petrozavodsk phenomenon was closely associated with the UFO problem, making a great impact on the development of ufological studies in the USSR, it would be advisable to start from a brief historical review of UFO studies in this country. This will allow us to better summarize the UFO situation that existed in the Soviet Union prior to 1977, and thereby better to understand the real significance of the Petrozavodsk phenomenon.

1. UFO Studies in the USSR

Strange to say, we are better informed about UFO studies in foreign countries than about those in our own one. This is not only due to their supposed secrecy. For a long time these studies were banned for ideological reasons. Such an approach fully corresponded to the official position of the USSR Academy of Sciences, as well as to that of the Soviet scholarly community: UFOs do not in fact exist. Naturally, under these conditions only amateur UFO studies could develop. Ufological information in this country circulated mainly through *Samizdat* channels—thus giving ufology some traits of dissident activities. Quality of this information was, as a rule, very low. At the same time, despite the ideological ban, the Soviet military and secret services seem to have had this problem in view. To estimate the state of the art of ufological studies in the former USSR it would be necessary to convene a special investigation. A short survey of this question one can find, in particular, in Ref. 1. Here I will dwell upon a few basic points only.

The first unofficial lectures on the UFO problem were read by Y. A. Fomin in Moscow in 1960. In subsequent years such lectures—arousing considerable public excitement—were read by F. Y. Zigel. In 1961 the leading daily of the Communist Party of the Soviet Union—*Pravda*—published an interview with Academician L. A. Artsimovich [2], in which all UFO sightings were treated as purely natural phenomena associated with atmospheric optical effects. This article reduced public interest in the UFO problem, but a few years later it broke out again.

In 1967 there was established a UFO Commission under the All-Union Space-Exploration Committee of the USSR Voluntary Society of Support to the Army, Air Force & Navy (DOSAAF). Its elected head was Major-General P. A. Stolyarov, and his Deputy for Science was Dr. F. Y. Zigel. In the popular geographical journal *Vokrug Sveta* (1968, No. 1) were published articles "A Natural Phenomenon", by Donald Menzel, and "Extraterrestrial Probes?", by James McDonald, discussing the question of UFO origin and accompanied by a quite benevolent commentary by Professor V. V. Dobronravov titled "We Should Look for the Truth". However, immediately after the Commission leaders spoke on Central TV and appealed to Soviet people to send in their UFO reports, the UFO Commission was disbanded. Shortly after this step was taken, there appeared in *Pravda* an article [3], authored by E. Mustel, D. Martynov, and V. Leshkovtsev.

By the middle of the 1970's public interest in UFOs, stirred up by the lectures of F. Y. Zigel and V. G. Azhazha, not only revived, but greatly increased. Debunking articles in the press could not help but amplify this interest. In spite of considerable ideological pressure, the UFO problem also attracted the attention of the secret services and those official persons who experienced UFO sightings when performing their duties. Colonel G. Kolchin published in the *Terminator* journal a paper (see Ref. 4) testifying that such an interest did in fact take place. He writes, in particular, about a letter sent by a group of leading Soviet aircraft designers to the Chairman of the Council of Ministers of the USSR, Alexey N. Kosygin, in 1968. The official reply to this letter was signed by Academician A. Shchukin. According to him, the question of UFO origin was jointly considered by the Presidium of the USSR Academy of Sciences, the State Committee on Hydrometeorology, the Ministry of Defense, and other governmental bodies (see [4]).

One should also note that in 1971 there was signed between the USSR and the USA the "Agreement about decreasing the danger of Nuclear War", in which the sides bound themselves to notify each other when unidentified objects were detected by their systems of warning against rocket attack. It does not seem improbable that at least some types of UFOs fell into the category

of unidentified objects mentioned in this Agreement (see: [4]).

Such was the situation in this country in 1977, when the sky over Petrozavodsk suddenly "burst" with a splendid firework display.

2. Why I Became Interested in UFOs

In those years I was seriously involved in SETI studies. There prevailed among specialists in this field the conviction that interstellar flights had no practical value for contacts with extraterrestrial civilizations. Rockets appeared to be a good means for interplanetary flights, but when it came to interstellar distances they seemed to be absolutely useless. Indeed, when employing any known types of rocket propellant, the exhaust velocity of the reaction mass is exceedingly small as compared with the velocity of light. Therefore, to reach relativistic velocities, a spacecraft would have to have a too great—in fact, unrealizable—mass ratio (the ratio between its initial and final masses). The sole exception is the photon rocket vehicle using the matter-antimatter propulsion system. For this, the exhaust velocity of the reaction mass (gamma-ray photons) is equal to the velocity of light. Theoretically, such a spacecraft would be able to achieve a speed as close to the speed of light as is wished. Due to the relativistic time dilation, it could reach any distant point in the Universe and return to Earth during the lifetime of one generation of cosmonauts. However, the photon spacecraft would require such a vast amount of stored energy that it would seem to be unrealistic even for the most highly advanced extraterrestrial civilizations.

There exists one more principal difficulty as well. The point is that at relativistic velocities the on-board time is accelerated, but on the home planet it continues to flow at its usual rate. Therefore, when the cosmonauts return from their distant voyage, they will find a society that had moved far ahead in its development—by thousands and even millions of years—alien and incomprehensible for them. (This is the well-known "twins paradox" of Einstein's theory of relativity.) Will this society be interested in the information obtained by the cosmonauts in their long journey? Will there be possible any mutual understanding at all? Probably, it is this psychological factor that makes impossible and useless interstellar travel with return, rather than any physical limitations. True enough, there seems to be possible an expansion of a civilization into outer space and colonization of planetary systems on the way. But this is a different scenario. Here I will evade this issue, not to digress too far from the subject under consideration. Anyhow, the SETI specialists were quite sure that remote (say, radio-) contacts between space civilizations are much preferable to direct ones.

It should be noted that here again there appears a similar difficulty: since the civilizations are separated by great distances, any response to our signal will not come so soon—in thousands and even millions of years. To avoid this difficulty, it may be possible, however, to consider interstellar communication as an *a priori* one-way process. One should observe that such a contact considerably resembles our interaction with past terrestrial cultures. We can derive much wisdom and aspiration when reading works by Plato and Confucius, even though no dialogue with them is possible.

I fully shared these views. True, at the bottom of my soul I understood there could exist some methods of interstellar travels that are completely new to us, being based on laws of nature unknown to the science of this day and age. But since at present we know nothing about these laws—the problem of interstellar travels may be considered only on a theoretical plane and as a very distant prospect. At the same time, our terrestrial civilization is already capable of receiving extraterrestrial radio signals. For that we need only to make an effort. This is why I took no interest whatever in the UFO problem—which in the public consciousness was associated mainly with extraterrestrial visitations—although I possessed some grains of knowledge about it. But when, after the lectures of F. Y. Zigel and V. G. Azhazha, debunking articles appeared anew in the leading Soviet newspapers (see, for example, Refs. 5 and 6), I was surprised at their strong bias. One could definitely feel in these articles that the writers were acting under orders from the top. But it remained absolutely incomprehensible who needed this and what for. If UFOs are just a fiction, why is it so difficult to explain this simply and convincingly? Why should someone promulgate such dishonest polemics? Truth need not be defended with wrongful methods. All this prompted me to try and look into the UFO problem on my own. And I began studying materials and literature on UFOs. Very soon I became convinced that the prevailing negative opinion on this question was due to elementary ignorance of facts, prejudice, and unwillingness even to treat the problem fairly and objectively, to say nothing of studying it.

At that time the scientific community and governmental officials generally believed that no UFOs existed. All the so-called UFO sightings were attributed to some rare and unusual but well-known phenomena of nature (such as bolides, aurora borealis, mock suns, and other optical effects in the atmosphere), as well as to technical experiments in the atmosphere and near space. It is only ignorant observers who, due to lack of elementary knowledge, could mistake them for UFOs. It was believed that UFO observers were predominantly housewives and other uninformed people, who were more often than not inclined, to put it mildly, to exaggeration.

There is not a sole reliable case when a UFO was instrumentally detected. All the existing UFO photographs are forged. There are no serious publications on the UFO problem, everything is based on unverified rumor and gossip. Such was the prevailing point of view.

But when I had studied first-hand materials and serious UFO literature, I became convinced that this opinion was far from being correct. Although most UFO sightings are definitely due to unusual natural phenomena and technical experiments, there exists a huge set—literally thousands—of informative reports not falling into this category and needing serious investigation and explanation. There are among UFO witnesses many people, worthy of respect and trust and having good professional knowledge. These are scientists, engineers, physicians, teachers, military and civilian pilots, seamen, and other competent persons. UFOs were not only visually observed, but in some cases detected with the help of radars, photo- and cine cameras. Some UFO photographs have been thoroughly examined by specialists who ruled out any possibility of forgery, but could not identify the objects or phenomena captured on the film. Besides low-quality publications, there exists a serious literature on UFOs: monographs and papers written by recognized scientists.

Having realized all this, I tried to attract the attention of my colleagues to the UFO problem. On February 22, 1977, I addressed a meeting of the Central Council of the All-Union Astronomical and Geodetical Society, at which "directive" speeches on the UFO question were made expressing my viewpoint. Alas, I must confess that all my attempts to change the minds of my colleagues have failed. At that time (the 1970's) I participated in the work of building the largest Soviet radio telescope RATAN–600, which involved a close collaboration with representatives of the Presidium of the Academy of Sciences. I had no opportunity to meet with the Academy heads and explain to them my views, but tried not to miss any occasion for that when meeting with mid-level academic officials. Therefore it is no wonder that when the Academy of Sciences received initial information from Karelia and official inquiries from the state authorities of this country, I was drawn to collecting and analyzing the incoming material.

3. First Reports from Petrozavodsk

In the evening of September 22, 1977, I received a call from Felix Yurievich Zigel, with whom I maintained close relations during a couple of years, after I had become interested in the UFO problem. He informed me about a singular phenomenon that had been observed over Petrozavodsk. The same evening, I was also called by A. N. Makarov, an official at the Department of General Physics and Astronomy (DGPA) of the USSR Academy of Sciences, who told me about the reports they had received, and who proposed to acquaint me with the materials. Next day, September 23, I postponed all previously scheduled business and went to the DGPA. Makarov showed me a few reports from Petrozavodsk. They came by teletype, being sent by the Director of the Petrozavodsk Hydrometeorological Observatory Y. A. Gromov. Thus, they had an official status, what was rather unusual in itself. The same day, there appeared in leading Soviet newspapers, published in Moscow, reports about the strange phenomenon that had been seen in Petrozavodsk.

Next days, the reports continued to arrive. Makarov phoned Y. A. Gromov in Petrozavodsk and N. P. Milov (the correspondent of the Telegraph Agency of the Soviet Union—TASS—in the Karelian Autonomous Republic) and asked them to send in all the materials that they had about this case. Also he conducted some negotiations with the press. There is no question that he was excited and very interested in the event. At the same time, he would surely never have taken the liberty to openly display this interest without an express permission on the part of his superiors. And if he had taken such a liberty, he would have been immediately put in his place. I cannot state that Makarov was charged to study this question, but it is evident that the heads of the Department were well informed about the situation and (up to a certain time) did not prevent his activities.

Together with reports about the phenomenon of September 20, 1977, reports were also coming in about unusual sightings that occurred on other days—particularly, on September 14 and 26. We had got several reports about a strange phenomenon that was observed on September 14 in the Ivanovo Region. According to data obtained by F. Y. Zigel, many inhabitants of Petrozavodsk woke up on the night of September 19–20 in a state of anxiety. This important information required verification.

It emerged that the phenomenon of September 20 was observed by research workers of a geophysical expedition of the Leningrad Branch of the Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation of the USSR Academy of Sciences (IZMIRAN) near the settlement of Lehta, Karelia. Information also came in about an ionospheric sounding experiment that was conducted that night. Even though the authors of this experiment admitted that its influence on the ionosphere could not generate the observed effect, the skeptics from the DGPA rejoiced greatly at this information.

In general, the situation remained quite favorable for serious analysis of the problem and I decided to take this opportunity to look into some old UFO observations—in particular, a very

interesting case when a UFO had been seen by a group of scientific workers from the Research Institute of Civil Aviation (RICA). This happened during a test flight on December 3, 1967. (Information about this case was kept in Zigel's materials.) I prepared an official letter to the RICA from the Academy of Sciences.

On September 27 I met in the DGPA with Orlov (unfortunately, I do not remember his name nor patronymic) who worked at the Section of Applied Problems of the Presidium of the Academy. The heads of the Section charged him with preparing a report about the phenomenon. Naturally enough, we began talking about other similar cases of observations of anomalous phenomena (the term "UFO" in all such talks was bashfully avoided). I singled out for him a few sightings from the set of UFO reports collected by F. Y. Zigel—including the above-mentioned case of the UFO observation by the RICA scientific workers. Besides, I gave him materials about the French official UFO study group GEPAN that had been established at the Centre National d'Etudes Spatiales, the French space agency, in Toulouse.

Next day, September 28, having overcome some inner hesitation, I met with the Deputy Academician-Secretary of the DGPA V. V. Migulin, a Corresponding Member of the Academy of Sciences (he was also Director of IZMIRAN), to discuss with him the situation that had developed in the Petrozavodsk affair. Migulin was extremely circumspect, but agreed to send the letter to the Ministry of Civil Aviation, what was also a non-traditional step. Subsequently (and, as it seems to me, to his definite displeasure) it was he who was charged with heading work on the studies of anomalous phenomena in the Academy of Sciences, in the framework of the officially approved state programs *Setka* and *Galaktika*. Meanwhile, those people who were involved in this affair became convinced that the Petrozavodsk phenomenon had attracted attention "at the very top". Some officials hinted that there had been an inquiry from a member of the Politburo of the Central Committee of the Communist Party of the USSR—although no name was ever mentioned. The subsequent development of events demonstrated that some letter of inquiry did in fact reach the Academy of Sciences. It is not a mere chance that the President of the Academy, Academician A. P. Alexandrov, had to take up this question personally (again, as it seems to me, to his evident displeasure).

Now that I am thinking this over and comparing some facts, it appears to me more and more clear that the inquiry may have originated from Yuriy Vladimirovich Andropov. It is known that in his youth Andropov resided in Karelia. In the years of the Great Patriotic War, being the First Secretary of the Karelian Regional Committee of the Young Communist League, he headed the guerilla movement in the occupied territory of Karelia. Probably, Karelia was close to his heart. It seems quite understandable that, having read in the newspapers (or having obtained this information through his own official channels) about the Petrozavodsk phenomenon, Andropov could take an interest in this event and wish to know what it was. On the other hand, the junior executives could not act on the incentives of the higher authorities and they simply set matters moving via usual channels (certainly not only via the Academy of Sciences). Of course, this is just a hypothesis. But anyway, this letter of inquiry proved to be very favorable for the further development of events. It appears to me that by that time some part of the state bureaucracy had become slightly irritated by the ideological ban on UFO studies. In the atmosphere and space, as well as during underground nuclear tests, specialists met with strange phenomena. It was only due to a healthy pragmatic interest that these specialists demanded a rational explanation for them. But the traditional bias, intensified in this country by ideological support, allowed no means to conduct serious studies in this field.

On September 29 Makarov phoned me and invited to come to the DGPA. There he said that we had to write a memorandum about the Petrozavodsk event for some high authorities. Which authorities needed this information, he did not explain, but I gained the impression that the request had been sent not through the office of the President of the Academy of Sciences, but via the Section of Applied Problems. Next day, on Friday, we met once again with the Section staff. I promised to prepare the memo by Monday.

By that time, it became clear that unusual phenomena were observed on September 20 not only in Petrozavodsk, but also in the city of Leningrad, some parts of the Leningrad Region, Karelia, and Finland. We tried to summarize in our memorandum the data from eyewitness reports and discuss possible interpretations of the phenomenon. I have considered three logically acceptable hypotheses: one object flew successively over different points of observation at a relatively low altitude; one object flew over the whole region at a high altitude (which made it possible to see it simultaneously from all these points of observation); a few similar objects flew over different spots more or less concurrently. The first hypothesis was rejected as contradicting observational data; and it was the third hypothesis that was considered as preferable.

It was also necessary to examine whether or not there existed any connection between the observed phenomena and the launching of the satellite *Kosmos–955* from the military launch site near Plesetsk, that occurred at 4 AM on Septem-

ber 20. Later on, some foreign authors completely associated the Petrozavodsk phenomenon with the launching of *Kosmos–955*. Certain Soviet specialists were also inclined to this variant from the very beginning of investigations. The launch site was then regarded as a secret one, which greatly complicated the situation, preventing any reference to it in papers lacking a necessary stamp of authorization. In the memorandum, even though it was sent "to the top" according to an official order, Plesetsk was not mentioned, since the document did not have a secrecy classification.

Here I would only like to note that the satellite was successfully inserted into orbit, whereas the phenomena observed in Karelia and nearby looked rather like the reentry into the atmosphere and burning of a spent rocket stage or artificial satellite—as, by the way, was noted in a journalistic commentary from Helsinki. We described, however, in the memorandum a few details not fitting the satellite version. Among them there was, in particular, the westerly component of the object's velocity perceived by some eyewitnesses, including research workers from the Leningrad branch of IZMIRAN. At that time I remained as yet unaware of the observations of meteorologists at the Sortavala Hydrometeorological Station who saw the object move swiftly from north-east to south-west, that is in a direction opposite to the satellite motion. Information about this observation appeared in a local Sortavala newspaper (*Krasnoye Znamya*) only on October 8, 1977.

In the final section of the memorandum (the length of the latter was about seven typewritten pages) it was recommended to create, in the framework of the USSR Academy of Sciences, or the State Committee on Science and Technology, a special center aimed at collection and examination of the pertinent information. As a preliminary, I proposed to begin by establishing a study group that could analyze existing data and prepare recommendations for future work. What has happened to the memorandum, I do not know. Most likely, it was used as working material when another document meant for the higher Soviet authorities was prepared. In particular, I do not know what was the fate of my proposals. But at least one of them has been implemented, even if in part: de facto in the DGPA there existed a study group on anomalous phenomena that included myself, A. N. Makarov, and also I. G. Petrovskaya (a scientist from the RATAN–600 group that I continued to run).

4. Meeting at the Institute of Space Studies

In October, reports from Petrozavodsk and other places were still coming in. Most of them were gathered and sent to us with the help of N. P. Milov and Y. A. Gromov. At last, I could call them directly from my office telephone. I. G. Petrovskaya, who happened to witness all these activities, soon voluntarily joined in the work of collecting and analyzing the data. Then she also brought into this work her husband D. A. Men'kov, an engineer-physicist from the Moscow Physical Engineering Institute. I was also assisted by my wife, Nelli Khachikovna Martirosyan. Her name was never mentioned in our official reports, but her assistance was most invaluable.

Little by little, a general picture of the phenomenon was clarifying, but many details still remained vague. Some data were mutually contradictory. Certainly, it would have been easy enough to obtain a consistent picture by rejecting certain reports, but we had no good reason to "edit" our data set in such a way.

The geographical region of observations was determined with confidence: it included the northwestern part of the USSR (Karelia, Leningrad and Pskov Regions, and the Baltic republics), as well as Finland. There also came reports about some luminous objects observed from airplanes in Byelorussia and near Moscow, but it remained unknown to what extent these events could be associated with the main phenomenon. By and large, it was the north-west where the sightings were grouped, at least if we restricted ourselves to the ground-based observations.

As for the temporal characteristics of the events, they were more ambiguous. The whole duration of the incident—that is, the time interval, during which unusual light effects were observed at various locations—was about three hours, from 3 AM to 6 AM Moscow time. Trying to somehow systemize the events, we have distinguished three phases of the phenomenon. The first one took the period of time approximately from 3 AM till 4 AM; the second (main) phase began at 4.00 or 4.05 and lasted 10–15 minutes; the third phase lasted approximately from 4.15–4.20 till daybreak. During the first phase, there was observed in several places, at different moments, a flight of one or several luminous bodies. During the second phase, at all the sites, practically simultaneously, a luminous object was seen to appear and a semi-transparent shell developed around it. Then the shell evolved into a "radiant" or "jet" structure of bent "rays" and subsequently the object flew away at an angle of approximately 180° to the direction of previous movement. The third phase was characterized by a stable glow near the horizon that lasted, as said above, until dawn.

Since the second phase of the phenomenon was seen at every place of observation practically simultaneously, it would have been tempting to interpret it as simultaneous observations of *one* object. In this case, the altitude of the object would have to have been not less than 200 kilometers. It was however impossible to construct a self-consistent spatial model of the phenomenon: data obtained at different places were again mu-

tually contradictory. It remained to assume that the second phase did involve, after all, several objects. In some cases the eyewitnesses did mention several objects quite definitely.

Trying to determine the altitude, at which the second phase of the phenomenon was going on, we did not come to an unambiguous solution either. On the one hand, as was said above, to observe the object simultaneously at all the sites, its altitude must have been more than 200 km, better still if more than 1000 km. On the other hand, at some places the glow was seen below clouds. Theodolite measurements in Petrozavodsk gave the altitude of the object as about six kilometers. There appeared an impression that these difficulties were due to the superimposition of different effects provoked by the same or different causes. Besides, in a number of places the eyewitnesses saw an aurora borealis (both before and during the main phase).

On October 3 I was unexpectedly called from the Department of Mechanics and Guidance Systems, and was invited, on behalf of Academician B. N. Petrov, the Academician-Secretary of the Department, to come and talk with him. I arrived by taxi, but did not meet with Petrov: by the time I had obtained my pass to come in he had already left. I was received by the Learned Secretary of the Department V. N. Potapov. As it turned out, B. N. Petrov had discussed the Petrozavodsk problem with the President of the Academy of Sciences. In result, it was decided to draw into this work, in addition to the DGPA, also the Department of Mechanics. This was good news indeed. As distinct from the position of the DGPA heads, who were extremely cautious (as it seems to me, to the detriment of the work), that of B. N. Petrov was more constructive. Subsequently, I attended several meetings, in which B. N. Petrov participated, and could see this with my own eyes. Here is one characteristic example. Just when the Petrozavodsk-connected events were developing (or maybe a little before), the Academy of Sciences obtained an official letter from the Ministry of Foreign Affairs concerning the supposed discussion of the UFO problem at the General Assembly of the Organization of United Nations. From the office of the President the letter was passed to a consultant who usually replied to the letters of UFO witnesses that were from time to time received by the Academy. When Boris Nikolayevich Petrov read the prepared reply, he considered it as absolutely unsatisfactory (too flimsy) and suggested that I prepare a more balanced reply. I immediately wrote a draft for such a reply, but it seems that A. P. Alexandrov got it too late and it was the earlier variant that was after all sent to the Ministry of Foreign Affairs.

When the Department of Mechanics joined in with the work on the Petrozavodsk phenomenon, it was decided to conduct a joint meeting of all the participants. It was held on November 1, 1977, at the Institute of Space Studies (ISS) of the USSR Academy of Sciences. The meeting was attended by such high DGPA officials as Deputy Academicians-Secretaries V. V. Migulin and R. Z. Sagdeev (Director of the ISS), and also Professor G. S. Narimanov, ISS Deputy Director. Georgiy Stepanovich Narimanov, a man of noble soul, has made great efforts to make possible serious UFO studies at the governmental level. Among the ISS scientific workers there was Dr. N. S. Kardashev, a Corresponding Member of the Academy. Unfortunately, I do not remember if Dr. Iosif S. Shklovsky attended the meeting. It appears that there was Dr. A. G. Masevich from the Astronomical Council of the Academy of Sciences. Certainly, the meeting was attended by members of the DGPA, Department of Mechanics, and Section of Applied Problems. There also came a few military people, among them Colonel-General G. S. Legasov—a very bright and intelligent man. If I am not mistaken, he was then holding the post of the Head (or Chairman?) of the Scientific-Technical Committee of the USSR Anti-Aircraft Force. Probably, there were representatives of other governmental bodies as well. I cannot recall who took the chair at the meeting.

The present author was given the floor to address the meeting. By that time we prepared a preliminary report on the data that had become known by October 20. Its content was read out loud to the audience. Since we had no explanatory hypothesis, I restricted myself to outlining the general picture of the phenomenon and presenting the very preliminary analytical results: the region of observations, time, outward appearance of the phenomenon, number of objects and supposed altitude of them. For different variants of the object's spatial position there were estimated its dimensions and the amount of energy released. The main conclusion of this analysis might be formulated rather simply: the scale of the phenomenon was too large to be explained by technical experiments on satellite orbits. Possibly, some space factor was involved, whose nature remained unknown.

As said above, certain data were contradictory. It was very important to find out if there was seen only one object located at a sufficiently high altitude, or several objects. No less important was to determine the altitude at which the event took place, and its spatial position. For that it was necessary to obtain additional data from various governmental bodies involved in technical activities in the atmosphere and space, and carrying out surveillance of near-Earth space. Of course, such data could be obtained only through official channels. Therefore, it was necessary to create an interdepartmental commission specially

authorized to investigate all the circumstances of the Petrozavodsk phenomenon.

My report lasted some 40 minutes, perhaps an hour, but not more. Questions were few and far between. Nobody raised any major objections. I remember one scientific worker of the Leningrad Branch of IZMIRAN who participated in the meeting. He was one of the members of the expedition to the region of Lehta, where the phenomenon was also observed. This scientist came to Moscow on some business and V. V. Migulin invited him to the convention. Having obtained the floor, he painstakingly described his own and his colleagues' observations, paying the most attention to the aurora borealis that was seen during the main phase of the phenomenon. Being somewhat pressed by the questions as to what he as an eyewitness and a scientist thought about this phenomenon, he even became a little angry and said: As a scientist I cannot take the liberty to put forward unjustified suppositions; if my opinion as a specialist interests you, I am ready to describe the characteristics of the aurora borealis we saw. All the attempts by the audience to get from him something else failed completely.

After a short discussion there was carried a resolution recommending the establishment of a special Commission to investigate the phenomenon. The meeting itself could not create such a commission; that could be done only by the "directive organs" (as they said in those years). But the recommendation was important indeed. As a matter of fact, this was the first essential step—an initial point for further decisions. Of course, there was hard work ahead and a persistent struggle—since the number of skeptics was far from zero. And therefore without strong support from interested people this decision could have easily come to nothing in the womb of the state red tape.

5. Bureaucratic Games

The President of the Academy of Sciences, Academician A. P. Alexandrov, was informed of the results of the ISS conference. It was presumed that he, on behalf of the Academy, would send to the Government a recommendation to establish a Commission on Investigation of the Petrozavodsk Phenomenon. But Academician Alexandrov was slow in deciding. On November 9 he talked with V. V. Migulin (it was also Academician B. N. Petrov who had to participate, but he could not come, due to one reason or another). During this talk it was however decided not to create such a Commission; instead of that, there was planned a narrow circle meeting at the office of L. V. Smirnov, Deputy Chairman of the USSR Council of Ministers, who for many years answered to the government for defense matters. Besides, he was then the Chairman of the Military-Industrial Commission (MIC) of the Presidium of the Council of Ministers. The academicians decided to invite to the meeting representatives of those official bodies who could be responsible for the "creation" of the phenomenon (its nature was assumed to have been technogeneous) and have them "confess".

Even though such a step seemed logical enough, one could feel in it a desire to hush up the affair. Such an approach distressed me. I feared that again only one version—technical experiments—will be considered and everything will gradually come to naught. That is why I decided to compile a memo for participants of this meeting, in which all the facts associated with the phenomenon and needing to be explained would be listed. It seemed to me important to emphasize that no fact should be ruled out without appropriate—and strict—verification. This memo was finished on November 20. On November 23 I handed it over to V. V. Migulin, and next day to G. S. Narimanov.

Even before Alexandrov's letter concerning the planned meeting was dispatched to the MIC, I had attempted to draw up a working plan and a possible structure of the organization tasked with studying the UFO problem. It was G. S. Narimanov, with whom I discussed these questions, invariably receiving full support and understanding on his part. By that time we had obtained a few interesting UFO reports from the military. Professor Narimanov initiated their investigation through official channels. When visiting the Military-Industrial Commission, he tried to persuade its members that UFOs must be studied at the state level. One should say that the term "UFO" was discredited in this country and therefore we did not use it. Just at that time I proposed as a working term the expression "anomalous aerospace phenomena", or simply "anomalous phenomena". This term was thereafter adopted.

Narimanov's efforts were not in vain. Early in December V. V. Migulin met with the MIC Deputy Chairman N. S. Stroev and the Chairman of the MIC Council on Science and Technology (CST) B. A. Kiyasov. The Academy was charged with preparing a questionnaire for other official bodies. As far as I could understand, not only the Petrozavodsk phenomenon was to be considered. Consequently, despite all hindrances, things were moving in the right direction. I prepared the questionnaire and handed it over to V. V. Migulin when routinely meeting with him on December 14. Although Migulin had taken the questionnaire without any argument, I again felt the tendency to hush up the affair. It is not improbable that Migulin's position and his vacillations in this question (quite understandable, I should admit) echoed A. P. Alexandrov's position. On the whole, the situation remained rather vague. It appeared that we had

plenty of data requiring some explanation, but nobody could bring himself to recognize this.

Simultaneously with the academic activities in this field, the MIC took some other steps as well. A UFO study group was planned to be established at Moscow Aviation Institute (MAI), where F. Y. Zigel was an Assistant Professor. It was R. G. Varlamov who took action in this direction. He was then working at a military radio engineering institute and therefore visited the MIC, propagandizing the UFO problem among the Commission staff. As far as I know, B. A. Kiyasov also supported this idea. At first, affairs seemed to develop from good to better. Zigel was filled with enthusiasm; he even proposed me to enter MAI and to join his group. But then, everything came to a standstill. The Rector of MAI did not give his consent for the creation of such a group. Probably, he remembered well the unpleasant situation, in which he had found himself a few years before in connection with unsanctioned lectures of Zigel, whose texts had been distributed in Moscow as another kind of *Samizdat*. The Party authorities were much displeased with all this fuss. Of course, MAI could have been charged with conducting certain investigations in this field, but this would not be the case if somebody else would take the responsibility for such a voluntary decision.

Most scientists whom I happened to meet with remained invariably skeptical as to UFOs in general, but some of them displayed an interest in the Petrozavodsk phenomenon. Immediately after the ISS meeting I informed about its results several official persons from the P. K. Sternberg State Astronomical Institute (SAI), in which I worked. These were Y. P. Pskovskiy—Deputy Director of SAI, A. M. Cherepashchuk—the secretary of the Party organization of SAI, its Learned Secretary L. N. Bondarenko, and A. V. Zasov. The latter had no connection to the Institute heads and participated in the talk, as it seemed to me, from pure interest only. I had an impression that all the participants (except, perhaps, Pskovskiy) perceived the information with interest and favor. A deep interest in the phenomenon (and even in the UFO problem) was displayed by P. G. Kulikovskiy, one of the senior scientific workers of the SAI, and author of the well-known *Reference Book for the Amateur Astronomer*. A. S. Sharov, another noted specialist in stellar astronomy, also took an interest in the phenomenon. I gave him our report to read; he ran through the text and, as I see it, considered its contents not quite convincing. But, on the other hand, as a result of these talks I made the acquaintance of Y. K. Kolpakov, a young SAI researcher, who had been for a long time interested in the UFO problem and with whom we have since been maintaining a close cooperation.

Among the scientists from other institutes who did not remain indifferent to the phenomenon, I would like to mention L. M. Ozerniy, a very gifted physicist who was then working at the Theoretical Department of the Physical Institute of the USSR Academy of Sciences, and especially L. M. Mukhin. Being a biophysicist, he was involved in planetary studies that were conducted in the ISS. We discussed with Mukhin the problem in detail and he expressed his willingness to render any assistance possible. At a later time, he did really help in examining the samples taken at a supposed UFO landing site near the town of Chekhov (Moscow Region). It was very unexpected for me that Academician S. N. Vernov, a prominent nuclear physicist and Director of the Institute of Nuclear Physics at Moscow State University, also revealed his interest in the problem.

While the question of the creation of the Petrozavodsk Commission was going reasonably well through the Academy of Sciences and other official bodies, amateur ufologists did not doze. There went from Moscow to Petrozavodsk a voluntary group of ufologists consisting of three people (I will not name them here). They left for Karelia due to an "inner impulse", being convinced of an imminent encounter with extraterrestrials. The encounter did not occur, but some useful material was in fact brought back to Moscow. I was very much afraid that this group's initiative and their carelessness could lead to further discrediting of the problem (sufficiently discredited in the past) and undermine all the efforts aimed at its acquiring serious scientific status. Fortunately, this did not happen. The group's activities were not made public and the situation was not damaged.

In the meantime, the efforts that were constantly made through the Military-Industrial Commission at last bore some fruit. It was the day of December 21, almost right on the winter solstice, that was selected for a meeting under the chairmanship of B. A. Kiyasov, with participation of many weighty persons. The day before, when I was talking with V. V. Migulin at the academic Department of General Physics and Astronomy, he put forward an idea (quite unexpectedly for me) that instead of a Petrozavodsk Commission we should establish a working group at the MIC (or under their auspices) to study anomalous phenomena as a whole, not only the Petrozavodsk event.

It was due to the efforts of G. S. Narimanov that I was also invited to the meeting. The meeting was addressed by V. V. Migulin. He spoke really well: plainly, clearly, and convincingly. Then a discussion started. There was, in particular, a very good speech by G. S. Legasov. Practically everyone unanimously supported the view that UFOs must be studied. The meeting carried a resolution that a special official decision

on this matter will be prepared (at that stage it remained unclear, whether this will be a Governmental Decision, or a MIC one). In any case, it was a big step forward.

In the following days, before the New Year holiday, I was involved in the preparation of the text of this Decision. Several times its draft was discussed with the workers of the Section of Applied Problems B. A. Kudryavtsev and B. A. Sokolov. On December 27 I discussed the prepared variants of the document with G. S. Narimanov, and next day they were given to V. V. Migulin. Having read the two variants with much attention, Migulin decided that the more detailed one was preferable. Later on, in practice I did not participate in the preparation of the final document. And when it was officially signed I was removed from official UFO investigations altogether. The reasons for this have remained unknown to me. It is conceivable that I was treating the matter too seriously for those persons in power who were inclined to a more formal approach to the problems under consideration. Partly it could be also due to some libelous denunciations against me (I was accused of being a Freemason). But this is quite a different story. Let's return to the Petrozavodsk phenomenon.

6. Trip to Petrozavodsk

While all these bureaucratic games were going on, reports about anomalous phenomena persisted in arriving. New data of this kind were sent from Petrozavodsk by N. P. Milov and Y. A. Gromov; some other reports were obtained from the Pulkovo observatory, Moscow newspapers and directly from eyewitnesses. By the end of the year 1977 a few dozens of UFO reports were accumulated. The majority of them had to do with the phenomenon of September 20, but there were also descriptions of other UFO sightings. As the reports were arriving, they were systemized and we proceeded to the preparation of a second part of the report that was titled *Phenomenon of September 20, 1977. Supplement to the Report of October 20, 1977*. This supplement was completed at the end of January 1978 and sent out via the Institute of Space Studies to the organizations involved, their circle having been defined by that time. Like the first part of the report, this supplement contained only the very preliminary analytical materials; at this stage we did not try to verify the data obtained. As a matter of fact, these data were only systemized for further investigation.

Obviously enough, a trip to Petrozavodsk was a necessity. But while the question of creating the Petrozavodsk Commission remained open, no practical steps were taken. Only by the end of 1977, after the December meeting at the Military-Industrial Commission, did there appear an opportunity to go to Karelia. Preparatory to the trip, V. V. Migulin signed on December 28, on behalf of the Academy of Sciences, letters of appreciation to N. P. Milov and Y. A. Gromov for their assistance in studying the Petrozavodsk phenomenon. At the same time, he prepared official letters from the Academy to its Karelian branch and to the Karelian regional committee of the Communist Party requesting assistance on their part for a "group of specialists" in elucidating "the facts of an observation of a rare atmospheric phenomenon". These letters were signed by the Vice-President of the USSR Academy of Sciences Academician V. A. Kotelnikov on January 2, 1978, and soon we left by plane for Petrozavodsk.

After January 1978 I did not make notes, and now the facts of the trip must be restored from memory. As far as I remember, it was suggested that the field investigation would be conducted by an interdepartmental group (or commission) working under the auspices of the MIC (it was B. A. Kiyasov who directly supervised it). The group must have consisted of two parts—academic and industrial. The latter group was headed by N. K. Rambidi, Director of the All-Union Scientific Research Institute of Metrological Service of the USSR State Committee of Standards. Indeed, a few times we met and collaborated in Moscow, but not in Petrozavodsk, as far as I remember. It is not improbable that the Rambidi group visited Petrozavodsk another time, or did not go there at all—but now I cannot recollect this. The academic group consisted of the following people: L. M. Gindilis (State Astronomical Institute at Moscow University), A. N. Makarov (Department of General Physics and Astronomy of the USSR Academy of Sciences), I. G. Petrovskaya (Institute of Space Studies), and B. A. Sokolov (Section of Applied Problems of the Academy of Sciences). Somewhat later, there came as an unofficial assistant N. Kh. Martirosyan. During our stay in Petrozavodsk we were in close contact with G. S. Narimanov and received from him all the necessary help.

The trip was aimed at meetings with eyewitnesses, verifying some details of observations, contacting local scientific research bodies and solving some other research tasks. First of all, we paid a visit to the Regional Committee of the Communist Party and the Karelian Branch of the USSR Academy of Sciences and enlisted their aid. If I am not mistaken, it was the next day after our arrival that N. P. Milov told us that the army commander, whose headquarters were located in Petrozavodsk, wished to meet with us. At the appointed hour (ten o'clock, as far as I remember) we arrived at the army headquarters, accompanied by Milov. I believed there would be just a talk with the commander. But he decided to convene the army council and therefore we had to report before the whole

assembly. First, there spoke B. A. Sokolov as the Ministry of Defense representative (he was then a Lieutenant-Colonel). Sokolov briefly described the tasks of our group. Then the present author obtained the floor. I re-read the text of my ISS report, supplementing it with some new details.

After completing my report, the commander asked a question:

"You say that the phenomenon was observed in Leningrad as well; if so, what do the astronomers at the Pulkovo observatory say about it?"

I had to explain that on that night it was cloudy in Leningrad—immediately before the event there were rain showers—and though for some time the sky then cleared, the weather was definitely not suitable for astronomical observations—that was why astronomers were not monitoring the heavenly phenomena. The Director of Pulkovo observatory, V. A. Krat, became aware of the phenomenon due to a telephone call from Pulkovo airport, where it had been observed by air traffic controllers and pilots of airplanes in flight.

Having listened to this explanation, the shrewd general remarked with an air of good humor:

"So, I see, the astronomers slept through the opportunity."

We were given a promise to assist if it was necessary to obtain information from the military who had witnessed the phenomenon.

One curious incident that took place while in Petrozavodsk now comes to my mind. Together with Milov, we arrived in his official car at the Petrozavodsk airport, where I questioned several workers who had seen the phenomenon. When the questioning was over and I was about to get into the car, a militiaman* came up to me and suggested that I should follow him to a branch office of the militia. I explained that I was here on a business trip and that the regional committee of the Party was well informed as to our activities. Milov also began talking—something like "Dr. Gindilis is a guest of Karelia..." But the militiaman was not impressed at all. It was hardly surprising—since he was obviously carrying out someone's orders. We went to a local office of the militia. There my passport and travelling papers were closely inspected. Everything proved to be in order. Not to disgrace themselves, the militia officers asked me to wait for a little while. Then they invited to the room some woman—a barmaid, apparently—to confront her with me. Being definitely embarrassed, she stated that she "did not identify" me. After that I have been liberated. Who organized this provocation—and for what purpose—remained unknown.

In Petrozavodsk we spent about a week. Talks with eyewitnesses offered a clearer picture of some essential details of the phenomenon. Among other witnesses, we met Yuriy Vladimirovich Linnik—a poet and philosopher (he taught philosophy at the Pedagogical Institute). Linnik saw this phenomenon on the night of September 19–20 at his dacha near the village of Namoevo, some 30 km from Petrozavodsk—first with the naked eye and then with an amateur telescope. He gave a very interesting description of the object and its motion—significantly different from testimonies of other eyewitnesses. There were cases when unidentified objects had been detected by a local meteorological radar—true, no data of this sort could be associated with September 20.

A fruitful contact was established with A. G. Mezentsev, a scientific worker of Petrozavodsk University. We came to an agreement about retrospective questioning of eyewitnesses with the goal of defining the spatial position of the object seen on September 20 to the best possible accuracy. The idea was as follows. University specialists, equipped with a theodolite, go together with an eyewitness to the place where he or she saw the object that night. There the theodolite is aimed at the point in the sky where, according to the eyewitness's recollections, the object was located. Readings are taken and the angular coordinates of the object—as it was seen from this place—are determined, even if only roughly. Then the same procedure is repeated with another eyewitness who observed the object from another point—and so on. The total combination of data obtained makes it possible to determine the spatial position of the object. True, since the direction of an object cannot be restored from memory with sufficiently high accuracy, the sight lines do not intersect at one point. They form an ellipse of dispersion, from which the object's position may be determined with a probable error. After returning to Moscow, I wrote a technical proposal for the investigation; it was approved by V. V. Migulin and therefore Petrozavodsk University obtained official grounds to conduct this study.

It revealed, however, a fairly complex picture of the phenomenon. As for the location of the main object, the results were as follows: a distance from the city center of 11 to 19 km (7 to 12 miles), and an altitude above ground level of 6 to 11 km (20,000 to 62,000 ft.). Even though this result is hard to dispute, it further complicates an already sufficiently intricate picture of the phenomenon, being at evident variance with the attractive model of one object (say, the *Kosmos–955* satellite) located high enough to be simultaneously seen from different places. Rather, it supports another version of the event—according to

* This is the literal translation of the Russian word "militsioner" that in the USSR designated—and still designates in Russia, Ukraine, and some other CIS countries—a police officer, not a member of an irregular military force.

which objects of similar appearance flew at low altitudes and were independently, though practically simultaneously, observed from widely separated locations. This is in accordance with several eyewitness reports from other settlements, where a luminous body was seen *under* the clouds.

7. Some Preliminary Conclusions

One of the first tasks after our return to Moscow was to complete the "Supplement to the Report". As was mentioned above, this work was finished in January 1978. New data made possible to outline the area of observations with greater assurance. As before, no reports came from the Kola Peninsula, Arkhangelsk Region, or from the localities situated to the east of the line Petrozavodsk—Kem'. The phenomenon was not seen in Plesetsk, neither at the IZMIRAN Geophysical Station located near the Yugorski Shar Strait. According to the information provided by the Hydrometeorological Service, on the night on September 20 at the weather stations of Zimnegorskiy Mayak, Intsy, Mudyug, Sosnovets, and Konushin (Arkhangelsk Region) the usual aurora borealis was observed, but no anomalous phenomena. On the strength of these data one could conclude that the phenomenon was located to the south of the latitude 67° N and to the west of the longitude 35° E. Could this zone have been defined by some peculiarities of the meteorological situation in this area, and if so, to what extent? We sent an inquiry to the State Committee on Hydrometeorology concerning the weather in the regions adjacent to the area of observations. The reply was that meteorological conditions in these regions did not differ appreciably from those within the area, and could not therefore have had a perceptible effect on its formation.

Another important question was that of the precise moment of the beginning of the phenomenon's second stage. In our *Report*, this moment was provisionally determined as lying somewhere between 4.00 and 4.05 AM. We considered this dispersion as quite satisfactory—since usually witnesses cannot fix the time to a high degree of accuracy. However, later we obtained three independent reports from the night shift of air traffic controllers at the Pulkovo airport. Judging from these reports, the moment of beginning of the phenomenon's second stage over Leningrad fell within the interval 3.55–3.57 AM. Since in this period of time the air traffic controllers were communicating with airplanes in flight, one should suppose that they fixed the time to sufficient accuracy. If this is the case, then the second phase of the phenomenon started over Leningrad *before* the *Kosmos–955* lift-off.

Of course, on that night certain observers could in fact also have seen phenomena associated with the launching of this satellite. Some descriptions (sent in by Khrebtov, from Kesten'ga, or by R. I. Kundozerova from Zasheek, etc.) do correspond to this supposition. But the whole picture of the phenomenon cannot be treated as that of a satellite launch. New data have confirmed the high illumination level of the earth's surface by the objects. The body (or bodies) decelerated, hovered, and then sharply altered their direction of motion; light beams emitted by them formed a very complex structure. All these salient features of the phenomenon may be traced in various reports. It is very difficult to interpret correctly several "close" observations, but it is hardly reasonable to ignore them. Both the question of the altitude, at which the phenomenon had occurred, and that of the number of participating bodies remained unsolved. There was an impression that not only during the first phase, but also during the second one, eyewitnesses located at various points saw different but similar objects flying at low altitudes. As new data emerged, the time frames of the second phase eroded more and more, and the very division of the phenomenon into different phases was beginning to seem more and more problematic. The distribution of the events in time suggested rather that an invasion of luminous bodies into (or their formation in) the atmosphere over the Russian North-West took place over the whole period of two hours, from 3 to 5 AM, with its maximum falling at about 4 o'clock.

We believed it most essential to emphasize that the data were as yet gathered and examined factually in a "half-amateurish" way. "It is necessary to proceed to a more serious stage of investigation with participation of various specialists and scientific research bodies." Unfortunately, this recommendation has never been implemented and the Petrozavodsk phenomenon has not been thoroughly studied.

Both the *Supplement* and the *Report* itself contained sections dealing with observations of anomalous phenomena on days other than September 20. A summary table included 92 sightings, the most interesting ones being described in some detail. Our conclusion was as follows: Although the scale and vividness of the Petrozavodsk phenomenon are unprecedented, the phenomenon itself cannot be considered as absolutely unique. "There appears to exist a certain class of anomalous phenomena observed in the atmosphere and in near-Earth space, which still defy satisfactory explanation. In the USSR, until recently, no attention has been given to the study of these phenomena. Such an approach is hardly reasonable. Steps must be taken to organize systematic investigations of these phenomena."

As indicated above, the *Supplement* was based on the data obtained before December 30, 1977. However, in the course of its writing (in January 1978) we received quite a few new reports. Some

of them were included into Appendix 1 to the *Supplement*.

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RB QUESTIONS AND ANSWERS: Dr. Lev M. Gindilis

From the Editor: Here we open a new section of our Bulletin—"RB Questions and Answers". In it we will publish views of noted scholars from Russia, Ukraine, and other countries, who contributed to the advancement of science and anomalistics, on the current situation and perspectives of development of their respective fields of investigation.

Dr. **Lev Gindilis**—a well-known Russian specialist in radio astronomy and one of the pioneers of SETI studies in the former USSR—has kindly agreed to reply to our questions. He has made a great contribution to the scientific UFO investigations in this country. The famous Gindilis Report (Gindilis L. M., Men'kov D. A., Petrovskaya I. G. *UFO Sightings in the USSR: A Statistical Analysis*. Moscow, Institute of Space Studies, 1979, Preprint No. 473) was the first work of this kind ever published by an official Soviet scientific research body. In RB, two papers by Dr. Gindilis have been published—"The Petrozavodsk Phenomenon" (1995, Vol. 2, No. 2–3), and "The Petrozavodsk Trigger" (this issue).

Dr. Lev Gindilis lives in Moscow, Russia, and works at the Sternberg State Astronomical Institute. He is a Full Member of the Russian Academy of Cosmonautics, Director of the Scientific and Cultural SETI Center, Vice-Chairman of the Section "Search for Extraterrestrial Civilizations" of the Astronomical Council of the Russian Academy of Sciences, and a member of RIAP Advisory Board.

1. Dr. Gindilis, what is, in your opinion, contemporary anomalistics? What are its main tasks?

This is a very broad field with rather vague boundaries. Probably, one should assign to it the total combination of phenomena that fall outside the scope of the usual world view commonly accepted and supported by the authority of science. The main task of anomalistics is to reveal the nature of anomalous phenomena, and to look for their place in the scientific picture of the world.

2. How would you formulate the content of the UFO problem? Is this problem scientific, in your opinion?

The UFO phenomenon certainly belongs to the category of anomalous phenomena. It includes those objects, observed visually or recorded instrumentally in the environment (most often in the atmosphere of our planet), whose parameters and "behavior" cannot be explained in the context of present-day scientific knowledge, that is in the framework of the present-day science paradigm.

Is the UFO problem a scientific one? When we call a problem "scientific", this means that it corresponds to a universally accepted current science paradigm. Besides, it is expected that the problem is posed and solved by scientific methods, in accordance with standards of scientific investigation. Among the latter one usually distinguishes experiment, reproducibility of results, and falsifiability. I would also add to this list such principles as the anti-dogmatic maxim (any knowledge may be developed and improved); critical approach to data obtained (any facts and conclusions must be scrupulously verified); the data must be analyzed thoroughly, carefully and professionally; any conclusions must be substantiated. These requirements have to be met both inside and outside the paradigm. In other words, those phenomena, for which there is no place in a current paradigm, must also be studied with the help of scientific methods. Further still, in such fields the above-listed requirements must be observed even more rigorously.

On this basis one can conclude that the UFO problem is not a scientific one, or, more precisely, it has not as yet reached this status. But this does not mean at all that the UFO problem is "antiscientific". Any new problem, before it obtains the status of a scientific one, has to go through a preliminary stage of its formation. I believe that the UFO problem is one of such "problems in the making".

3. What, in your opinion, could be considered as the solution of the UFO problem? What is needed to be done (both on theoretical and organizational levels) to reach such a solution?

If the true nature and the place of UFOs in the scientific picture of the world were established with certitude, this would be the solution of the UFO problem.

It would have been fine if the negative attitude of the scientific community to this problem had transformed into a positive one and the whole potential of modern science had been used for

solving it. But I think this is impossible—first of all, due to psychological reasons. More likely that the inverse course of events would take place: when the nature of UFOs and their place in the scientific picture of the world is established, this attitude will change.

4. What is, in your opinion, the modern state of the UFO problem in the countries of the former USSR and in the West? What are the main achievements of the last 50 years? What are the main shortcomings of present-day ufological studies?

It is a long time since I was actively studying the UFO problem. The current situation in western countries is therefore not well known to me. As for the countries of the Community of Independent States (first of all, Russia), here the hopeless pollution of the "informational environment" in this field succeeded the former state censorship. I think this is just another method to prevent serious scientific studies of the UFO problem by discrediting it in the eyes of the scientific community. This method is in fact even more effective than state censorship—the latter, on the contrary, stimulates interest in the problem. Probably, the main result of the fifty-year attempts to investigate the UFO phenomenon that were made in various countries lies in the fact that—whether or not we like this—UFOs have become an integral part of mass-culture.

5. Which is the real role of "big science" in UFO studies? Which are the prospects of its participation in these studies?

"Big science" could have played a major part in studying the UFO phenomenon—or at least in establishing real facts and those properties of UFOs that should be explained. However, it persistently stands aloof from this problem. One can even understand such an attitude, since the UFO problem does fall outside the framework of the current scientific paradigm. Besides, it is due to the effort of "UFO enthusiasts" and the mass-media that it has been severely discredited. So, I cannot see any prospects for "big science" participation in UFO studies, at least in the near future.

6. What is the role and what are the prospects of participation of anomalistics in the development of the UFO problem?

In my opinion, anomalistics can scarcely participate directly in the development of this field of study. But by making a contribution to the progress of the whole field of natural sciences, it will favor the ultimate solution of the UFO problem as well.

7. Could you formulate the main conclusions about the nature of the UFO phenomenon that resulted from your long-standing work in this field?

I think that it is a borderland phenomenon lying on the boundary between two worlds—the three-dimensional world of contemporary science and the world of higher dimensions having different spatial-temporal characteristics, in which different laws of nature are operative. Modern science is moving by its own path towards the cognition of the worlds of higher dimensions. When the idea of such worlds becomes a part of the scientific world view, the UFO phenomenon will obtain its natural explanation.

LETTER TO THE EDITOR

THERE *WERE* IN THE USSR ABDUCTION CASES AND UFO LANDINGS!

Sir, —

Publication of the paper "History of State-Directed UFO Research in the USSR" by Yuliy Platov and Boris Sokolov is a really significant stage in the history of scientific ufology. It appeared almost simultaneously in *RIAP Bulletin* (1999, Vol. 5, No. 3–4) and in the highly authoritative Russian academic periodical—the *Herald of the Russian Academy of Sciences* (2000, Vol. 70, No. 6). This is quite an event, if for no other reason than that it breaks the secrecy that surrounded the Soviet program of UFO studies in the years 1978–1991, when it was being conducted by academic and military research bodies. Even formally open parts of the program were painstakingly disguised. Now they have become known to the whole reading community.

Future historians of scientific ufology will certainly regard the survey by Platov and Sokolov as a very important document. It could probably be expanded into a book on the same subject matter. Why not also publish concrete scientific results of this program—in particular, those from the fields of atmospheric optics and environmental studies? One day in the future it can certainly become possible.

The present author took part in fulfillment of the *Setka AN* and *Galaktika* UFO study programs as a rank-and-file researcher—working with literature, writing scientific reports, processing photographs and travelling to "hot ufological spots" in the Novosibirsk Region and Altai Mountains. I have also participated in some conferences in Novosibirsk and Moscow, where preliminary results of the program phases were summed up. Therefore, my impressions of the survey by Platov and Sokolov are not very typical: being rather well aware of many sides of this work "from inside", I cannot perceive it as an outsider. It would be more interesting to learn what impressions are produced by the paper on the readers who are inexperienced in the history of the UFO problem and are still seriously asking themselves: "Do UFOs really exist?"

For me it seems rather strange that Dr. Felix Zigel—the founder of scientific ufology in the USSR, Associate Professor at Moscow Aviation Institute and an expert in astronomy—was presented in the paper as merely another lecturer entertaining his audiences with bizarre hypotheses. The list of references lacks *UFO Sightings in the USSR* that was published in Moscow in 1993 (five years after Dr. Zigel's death), and also there is no mention of such researchers as V. S. Troitsky, M. A. Zheltukhin, A. N. Dmitriev, B. A. Shurinov... But the sequence of events that led to establishing the official program of UFO studies in the USSR is described in the survey quite impartially. The authors do not try to conceal the fact that the program was set up under pressure of circumstances. The Academy of Sciences of the USSR, as well as established research institutions of other leading world powers, was never enthusiastic about organizing such studies—even though the UFO problem itself dates as far back as 1947. Peculiar as it is, this field of knowledge has been "privatized" by a kind of bipolar structure having almost no connections with official science. Nobody ever tried to build this structure, it arose spontaneously in a number of countries, according to the same scheme everywhere: one pole included informal groups of voluntary enthusiasts of flying saucers, and the other the state intelligence agencies. Relations between these poles were far from cloudless—which has been clearly demonstrated in publications of western ufologists. According to a logic of events, the Soviet Union could not be an exception to this rule. And suddenly in 1978 there appeared a "third force"—the Academy of Sciences of the USSR! What came of it, one can learn from the survey by Platov and Sokolov.

To put it briefly, spheres of influence have been separated between various departments. Effects accompanying launchings of space and military rockets were studied as something extraordinary due to the regime of secrecy. For the "authors" of these launchings they were no mysteries at all, appearing as anomalies only to uninitiated Soviet citizens and academic scientists having to solve riddles with a known (to the "initiated" persons) solution. The main efforts during the 13-year work were wasted by investigating secret illuminations in the night sky. These were not mysteries of nature that are, as a rule, to be studied by the Academy of Sciences, but mysteries of the military-industrial complex. At the same time, there were recorded very intriguing natural phenomena as well. Some of them are known to science—being, in particular, well described in the classical work *Light and Color in Nature* by M. Minnaert. (There is in this book even a short section dealing with flying saucers.) It proved, however, evident that not all strange natural phenomena fall into known categories: some of them are indeed new to science. They are rather numerous and various in their origin, being not studied by meteorologists, geophysicists, or oceanographers due to their relative rarity and lack of practicability at the present time. Information about such phenomena does however circulate among ordinary people who work under the open sky. The present author has satisfied himself that even short visits to the Novosibirsk, Tomsk, and Kemerovo regions, as well as to the Altai Mountains, give an unexpectedly high yield of reliable reports about strange events that are difficult-to-explain. More often that not, they are simply ignored by "serious people". Any research work conducted in the field (geological, geophysical, etc.) is aimed at practically useful results. As for the tradition of disinterested scientific studies, not connected with applied tasks, it has been as good as lost. This conclusion also stems from the results of the fulfillment of the Soviet UFO program, being certainly worthy of attention.

Platov and Sokolov avoid in their paper touching the set of data gathered in the course of the project. They do not cite results obtained in the framework of the *Setka AN* and *Galaktika* programs by scientists from Nizhniy Novgorod who worked under the guidance of Dr. V. S. Troitsky, a Corresponding Member of the USSR Academy of Sciences. Neither do they pay any attention to the expeditions to the Altai and Sayan Mountains headed by Dr. A. N. Dmitriev, or to the materials that were examined (and sent to Moscow) in Novosibirsk by Dr. N. A. Zheltukhin, also a Corresponding Member of the Academy of Sciences. When the first stage of the *Setka AN* program was under completion, the present author wrote a report analyzing the existing (and, certainly, very inhomogeneous) body of publications on the UFO problem. In it I noted that in the process of this work one should expect gradual accumulation of a limited but inevitable set of data that could not be explained by the effects accompanying aerospace tests, neither by unknown phenomena of nature. These are eyewitnesses' reports about strange craft whose flight characteristics are far ahead of terrestrial airplanes and rockets, or whose motion is incompatible with known laws of physics. Since there exists no method to scientifically investigate such objects or forecast when and where they will appear next time, they can come into the view of researchers only by chance.

By the end of the fulfillment of the *Galaktika* program I met more than once with this viewpoint in other reports as well. It does seem to have been practically validated. This is, however, difficult for scientists to agree with such "unpleasant" facts as the existence of objects that cannot be scientifically studied or do not obey the elementary laws of physics. In such cases it seems

to be simpler to say with a lofty tone that these facts are unreliable and not worthy of attention on the part of serious specialists. Only in this context can I explain Platov's and Sokolov's assertion that in the course of the project's work, there was not recorded even a single report of a UFO landing, or a contact with UFO pilots, or an abduction case.

Yuliy Platov published such statements in Soviet newspapers in the 1980's more than once. When the same was said in 1989 in the journal *Vokrug Sveta*, it already looked rather strange. By that time the "rules of game" in the Soviet state had changed due to *perestroika*, which resulted in a real wave of reports in the mass media about humanoids and UFO landings. Encounters with UFOs and "aliens" in Georgia, the Perm Region, Voronezh and other parts of the USSR became a favorite topic in Soviet newspapers. Moreover, journalists wondered: why had physicists and chemists from the Academy of Sciences not rushed to question witnesses, collect samples, examine supposed landing traces? Is this not interesting or important at all? And Platov had to explain in irritation to a correspondent of the *Komsomolskaya Pravda* newspaper (his reply was published): "We cannot run about the whole country trying to verify what was said or written by someone somewhere..." Probably not—but what must science do instead? As noted above, there exists no method to study rare unpredictable phenomena. As a result, these reports were investigated by representatives of the "first force" (amateur ufologists). Agents of the "second force", the secret services, were probably also investigating, but of course nothing is known of their conclusions.

In the fall of 1989 there was held a ufological conference in Petrozavodsk, where methodology and results of these investigations were discussed. Its participants included scientists, engineers, cosmonauts, and journalists from Moscow, Leningrad, Perm, and other cities and regions of the Soviet Union. But certainly, this meeting was not in accordance with the State program of UFO studies, and the conference recommendations remained unknown to its heads. Several conferences and seminars of this kind have been held in Tomsk. Dr. E. A. Ermilov from Gorki (now Nizhniy Novgorod) University, who worked together with Dr. V. S. Troitsky, several times invited Yuliy Platov to visit places of supposed UFO landings in the Moscow Region and to examine these sites. However, all these invitations were rejected—the pundits of the State program knew *a priori* that the eyewitnesses were lying.

Of course, one cannot but agree that properly authorized letters certified with official seals, would have been much preferable to stories told by chance observers. But as luck would have it, this obvious theoretical thesis is not devoid of practical shortcomings. In particular, the additional workload of conducting observations of anomalous phenomena (certainly, absolutely gratis) was performed at many meteorological stations very unwillingly—mainly for the sake of appearance. The present author knows this at first hand. One can hardly consider as a merit of the program the fact that it was, according to the authors of the survey, "one of the cheapest, if not just *the* cheapest, among scientific research works in defense fields". Nobody pondered over the fact that such an "economy" of state resources finally led only to false conclusions and self-deception by the Program's heads.

The latter were in fact well aware of such facts as, for example, recurrent meetings of two young girls from an Altai village with UFO crews described in reports by A. N. Dmitriev (which have by now been declassified—see his book *Cosmo-Terrestrial Connections and the UFOs*, Novosibirsk, 1996). Organizers of the *Galaktika* program were also informed about a short-term abduction of two workers in the environs of Orsk (Orenburg Region, Russia). Since the Novosibirsk participants of the *Galaktika* program had no funds to travel to Orsk either, N. A. Zheltukhin proposed communicating with the eyewitnesses of this event by phone. A long talk with the authors of a detailed letter about this strange incident provided reason enough to believe that the latter was not a joke, neither a misinformation. If abduction cases had been considered as a serious matter, this story would have deserved a deep scientific investigation. But given the complete lack of financing, participants of the program could feel only a moral responsibility for its results at best. It was therefore much more simple and safe to decide that nothing of this sort had ever happened. ...Whence it followed that "there came not a single report of abduction". Well, as the Russian proverb has it, when baking pancakes you invariably spoil the first one. After the current economical crisis in Russia is overcome, a Second State Program of UFO Studies will not be long in coming. And new generations of researchers, having severely criticized their forerunners for treating the UFO problem in a not-too-scientific way, as well as for the ineffective over-frugality, will take new steps towards the truth.

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